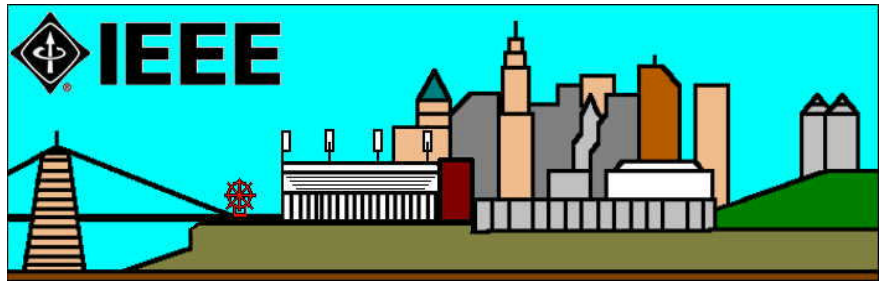


**IEEE CINCINNATI
SECTION
NEWSLETTER
MAY 2007**



MAY MEETING
Student Projects

DATE: Thursday, May 24, 2007

PLACE : Raffel's – 10160 Reading Road (see below for directions)

TIME : 5:30 p.m. to 6:00 p.m. - Social Time
6:00 p.m. to 7:00 p.m. - Dinner
7:00 p.m. to 8:30 p.m. - Presentation

COST FOR DINNER: \$10.00 per person (with advanced reservation - see below)
\$15.00 per person (at the door)

NOTE: DINNERS ARE ALWAYS OPTIONAL - YOU MAY ATTEND THE PROGRAM ONLY.

MENU SELECTIONS: Country Fried Chicken, Spaghetti with Meatballs, Meatloaf served in Brown Gravy, Whipped Potatoes, Succotash, Caesar Salad, Fresh Fruit Salad, Buttermilk Biscuits, Apple Dumplings, Coffee, Tea, Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks.

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately 3/4 of a mile to Reading Rd. and turn right on Reading.

RESERVATIONS: Please call the Cincinnati Section Voice Mailbox at **513-629-9380**, by **Noon, Tuesday, May 22, 2007** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number. You can also make a reservation by e-mailing our Arrangements Chair, Ron Harbaugh, at ron.harbaugh@ieee.org.

PE CREDITS: Depending on the subject matter, attendance at IEEE Cincinnati Section Meetings now qualifies the attendee for Professional Development Hours towards renewal of Professional Engineers Licenses. Required documentation will be available following the meeting! The Section Meetings also provide a great opportunity to network with fellow engineers in the area.

ABOUT THE MEETING: This month's meeting will feature presentations by senior students from the Electrical and Computer Engineering Technology program at the University of Cincinnati College of Applied Science, from students from the Electrical, Computer Engineering and Computer Science program at the University of Cincinnati College of Engineering, and we are working on possibilities with Computer and Electronics Engineering Technology program at Northern Kentucky University and with recent graduates from the Electrical Engineering program at Miami University. Students from each program will present their findings in a brief slide show, demonstrate their projects, and answer questions from the audience.

CHAIR'S MESSAGE

by Brian Resnick, Section Chair

The Section thanks Carey Mossop of Eaton Corporation and Bill Moser of AM Engineered Sales for a terrific meeting on Transient Voltage Surge Suppression; complete with a door prize of a whole-house surge suppressor! Randy Restle was the lucky winner. Bill Moser notes that there is a four-hour, more in-depth presentation available for those who are interested. For more information on this presentation or any follow-up information you may need, please contact Bill at BillMoser@AMEngineeredSales.com.

ROBOTIC COMPETITION – Ralph Hyre is coordinating a new robotics competition at Milford High School. If you know of a high school that might be interested in competing, or if you would like to help Ralph with the event, please contact him at ralphw@gmail.com. There is more information on our web site.

SUMMER BREAK

The Section takes a summer break from meetings. We start up again in September.

MAY MEETING – STUDENT PRESENTATIONS

This month, students from various universities and colleges will be presenting senior design projects and graduate posters. Come and support these young engineers. Come see what is new. See you on May 24th at Raffel's.

MEMBERSHIP NEWS

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Mads R. Almassalkhi	Ronald D. Davis	Peter R. Jankovsky	Kenneth D. Roth
Cecil Avery	Robert L. Dickson	Chris L. Loes	David B. Schaefer
Stephen J. Botos	Rebecca Estep	Michael R. Logies	Kent C. Sherman
Kelly A. Brunemann	James D. Farrell	Mark McKinstry	Steve Siebel
Janet E. Burge	Pradipto Ghosh	Jonathan A. Morarity	Sean T. Smith
Thomas M. Burke	Kyle Hart	Kate M. Murphy	Alan R. Wilson
Jeffrey A. Carter	Andrew Hicks	Vinayak U. Muthal	Kaichang Zhou
Robert K. Casto	Gabe Hospelhorn	Karthik Narayanaswami	

We wish to welcome these new members to the Cincinnati Section!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Dick Reiman, Historian

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Frederick E. Terman

Sixty-five years ago this month, the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper by Frederick E. Terman of Stanford University concerning the information-handling capacity of the radio spectrum. At the time, he was in the early stages of a career which would gain him recognition as one of the most influential electrical engineering educators of the 20th century. He was to play a key role in the emergence of Stanford as a center of graduate education and research and as a seedbed for firms such as Hewlett-Packard and Varian Associates.

In his January 1930 paper, Terman provided some quantitative estimates of the number of narrowband radio telegraph and radio broadcasting stations which might be accommodated in the radio spectrum with wavelengths down to 10m. He observed that taking full advantage of the potential depended greatly on economic and political factors as well as technical. He anticipated that there would be further technical innovations enabling more efficient use of the spectrum if the perceived economic value were deemed sufficient to "pay the cost." He outlined a plan involving the use of chains of low-power broadcast stations with synchronized carrier frequencies along with some "super power" stations as a good way to enhance radio service to the public. Because of its wide band requirement, he felt that television might be better using wire distribution instead of consuming the radio spectrum.

Terman was born in 1900 in Indiana, the son of an eminent psychologist, Lewis Terman, an advocate of the Rousseau theory of "natural education." Consequently, Fred Terman was encouraged to pursue his own interests and was not enrolled in school until he was nine years old. In 1910 the family moved to Stanford where his father became head of the Psychology Department at the University. In 1920, Terman graduated from Stanford with a degree in industrial chemistry, but he then changed to electrical engineering and earned a degree in that field from Stanford in 1922. He pursued graduate study at the Massachusetts Institute of Technology where his mentor was Vannevar Bush and where he received a doctorate in 1924.

Terman returned to Stanford to teach communication and electronics beginning in 1925, becoming Head of the Electrical Engineering Department in 1937. His classic text, *Radio Engineering*, published in 1932, became known as the "bible of the profession." He also wrote *Measurements in Radio Engineering and Fundamentals of Radio* during the 1930's. In addition, he was author or coauthor of 16 technical papers published in the PROCEEDINGS OF THE IRE during the years from 1928-1941. He was elected president of the IRE in 1941 and to the National Academy of Sciences in 1946.

During World War II, Terman served as director of the Radio Research Laboratory at Harvard University with a staff of more than 800 and with a mandate to develop a variety of equipment for radar countermeasures. His *Radio Engineers Handbook* was published during the war. He returned to Stanford as Dean of Engineering in 1945 and occupied this position until 1958. With the aid of funding for research from the government and local industry, he led Stanford to a position of eminence as a research university. He encouraged Stanford graduates to launch new companies near the university and was instrumental in founding the Stanford Industrial Park in 1951. He followed a "steeples of excellence" strategy by recruiting faculty of national eminence in specific fields. He also campaigned successfully for reforms in engineering education which would place greater stress on science in the curriculum. He became Provost at Stanford in 1955 and vice president in 1959. He was awarded the IRE Medal of Honor in 1950 and was the first recipient of the Education Medal of the American Institute of Electrical Engineers (AIEE) in 1956. He became a founding member of the National Academy of Engineering in 1964.

Terman reportedly had few outside interests other than playing bridge and rarely took vacations. He was very disciplined in his work habits and advised students that, by writing at least one page each day, they could produce a book in a year. He retired from Stanford in 1965 but continued to engage in consulting work. He served as Chairman of the IEEE History Committee during the early 1970's and helped lay the groundwork for the creation of the IEEE Center for the History of Electrical Engineering. He was awarded the National Medal of Science in 1976. He died in December 1982 at age 82.

James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology

IEEE NEWS

THE LATEST ISSUE OF IEEE'S "THE INSTITUTE" IS NOW AVAILABLE AT

<http://www.ieee.org/theinstitute>

Included in this issue:

- Survey Says Members Pleased With Public Awareness Programs: The IEEE is doing a better job of raising the public's awareness of engineering and technology, according to the 2006 Member Satisfaction Survey, which asked how satisfied members are with the IEEE and its services. Read more about the results of the survey at <http://bmsmail3.ieee.org:80/u/6043/04824637>
- Management Society to Become Council: The IEEE Engineering Management Society is set to be the first society to become a council. Because of financial and strategic reasons, EMS will start doing business as the IEEE Technology Management Council on 1 January, a change approved by the IEEE Board of Directors at its February meeting. For more information, visit <http://bmsmail3.ieee.org:80/u/6044/04824637>
- Marketplace of Ideas: Free Laptops for Bloggers? Microsoft recently gave away laptops, each loaded with the new Windows Vista operating system and valued at more than US \$2000, to about 90 bloggers who regularly write about technology. Some bloggers were happy to accept the computers, while others asserted that Microsoft was using the PCs as bribes to get good press. For its part, Microsoft said the computers were given away so the bloggers could evaluate and review them.

Should bloggers be held to the same ethical standards as traditional journalists, who generally cannot accept expensive gifts from the companies they cover? Weigh in at institute@ieee.org

And read responses to January's question on how you would feel if someone used the wireless Internet service you pay for to make free calls. Responses range from calling the use unethical to seeing no problem at all in the free calls. See what members had to say at <http://bmsmail3.ieee.org:80/u/6045/04824637>

- Questions Sought for President-Elect Candidates: If you have a question about an IEEE issue that you would like to ask the IEEE President-Elect candidates, send it to corp-election@ieee.org. Answers by Marc Apter, Pedro Ray, and John Vig to selected questions will be broadcast on the IEEE Election Web site at <http://bmsmail3.ieee.org:80/u/6047/04824637> during the voting period, which runs from 1 September through 1 November.

Election ballots will be mailed to eligible voting members by 1 September. For more information about the annual election, visit the IEEE Election Web site or contact the IEEE Annual Election staff at corp-election@ieee.org.

- New Programs Help With Higher Education: The IEEE can help finance your child's college education or consolidate college loans, thanks to three new programs from the institute's Financial Advantage Program. While these programs are primarily for U.S. members, those from other countries who plan to study in the United States may also find the services useful. Read on at <http://bmsmail3.ieee.org:80/u/6048/04824637>
- IEEE and TrainingCity to Offer Technology Courses: Need to beef up your knowledge of network security, XML, or embedded Linux? Is the inconvenience and cost of going back to school holding you

back? Taking these and other courses may now be a little easier, thanks to a recent partnership between the IEEE and TrainingCity. Find out more at <http://bmsmail3.ieee.org:80/u/6049/04824637>

- African States Gain Access to IEEE Library: In an experimental program, the IEEE is working with schools in five sub-Saharan African countries to help them access the IEEE/IET Electronic Library at substantially reduced rates. To read more about this arrangement, visit <http://bmsmail3.ieee.org:80/u/6051/04824637>
- Post or Search Summer Internships on the IEEE Job Site: If your company has summer internships to fill or if you're a student who's looking for an internship, visit the IEEE Job Site. Hiring interns is the best way to attract new talent to your organization, while the interns gain the valuable experience they will need once they graduate and join the workforce. The fee will be waived for internships posted to the Job Site before 20 June To post an internship, visit <http://bmsmail3.ieee.org:80/u/6052/04824637> select "internship" as the job type in the "Post a Job" screen, and enter the promo code JSINT7 at the checkout screen. If you have questions send an e-mail to employerjobsite@ieee.org
- Are You From a Family of IEEE Fellows? The Institute is looking for IEEE Fellows whose relatives are also Fellows for possible inclusion in an upcoming article. Contact the editors at institute@ieee.org
- Where Mechanical and Electrical Engineering Intersect: Mechatropolis.com is a new online community and resource center for mechanical and electrical engineers who design mechatronic systems, which integrate mechanics, electronics, and embedded software to interact with the physical world. The site offers webcasts, product tests, and a large repository of technical articles. Learn more at <http://bmsmail3.ieee.org:80/u/6054/04824637>
- IEEE Hosts Seminar on Global Standards and Developing Economies: The IEEE, along with the Tunisian Ministry of Communication Technologies, will present "Global Standards and Developing Economies: Broadband Access and Infrastructure" from 9 to 10 May in Tunis, Tunisia. The free event, hosted by the IEEE Standards Association Corporate Program, will provide an in-depth introduction to international standards activities and highlight the scope of the IEEE's efforts and its relationships to other standards bodies. For more information, visit <http://bmsmail3.ieee.org:80/u/6055/04824637>
- Can Countries Thrive Without Science and Technology? While it's been commonly accepted that no country can sustain economic growth without giving its school population a solid foundation in science and technology, one Stanford University sociologist is arguing that that just isn't true. Read what he has to say in IEEE Spectrum Online's exclusive report at: <http://bmsmail3.ieee.org:80/u/6056/04824637>
- Indian Groups Know Secret of Recruiting Members- Fun : When it comes to getting student members excited about the IEEE, involving them with fun and games is the way to go. No one knows that better than the IEEE Gujarat Section in India and the IEEE student branch at the Indian School of Mines, in Dhanbad. Read about the events they organized at <http://bmsmail3.ieee.org:80/u/6141/04824637>
- For Handling the Master Brand, Follow the Rules: If you're responsible for creating promotional materials for your IEEE organization or event, you have to know how to use the IEEE's diamond-shaped Master Brand. The IEEE has updated its Identity Standards document, which has all the rules and regulations for using the brand on electronic and printed materials. Learn more at <http://bmsmail3.ieee.org:80/u/6142/04824637>

- Employment Navigator Adds Features, Drops Subscription Fee: IEEE-USA has added several new features to its Employment Navigator, a career-development and job search service. What's more, the six-month, US \$50 subscription fee has been eliminated. Learn more at <http://bmsmail3.ieee.org:80/u/6143/04824637>
- History Milestone Recognizes Spanish Engineer's Remote Control: What would life be like without remote controls? We point and click our way through life-changing TV channels, unlocking car doors, and playing video games. Such activities were made possible largely because of the work of Spanish engineer Leonardo Torres Quevedo, whose work spanned the late 19th to the early 20th century. That's why the IEEE has honored Quevedo for early developments of the remote control with an IEEE Milestone in Electrical Engineering and Computing. To learn more, go to <http://bmsmail3.ieee.org:80/u/6145/04824637>
- IEEE GOLD Online Seminar Focuses on Career Decisions: Sign up now for the IEEE GOLD Online Seminar "Career Decisions: Academia vs. Industry" set to take place on 24 May at 21:00 Coordinated Universal Time, 5:00 p.m. EST. Learn how Dr. Grace Wong, CSO of ActoKine Therapeutics, in Chestnut Hill, Mass., overcame the challenges she faced when she was deciding on her career, dealing with balancing her professional and personal life, and learning about the differences between career paths in academia and industry. For more information and a link to the registration form, go to <http://bmsmail3.ieee.org:80/u/6146/04824637>
- Oceans07 Coming in June: Electronic systems are performing myriad tasks in the oceans today, as mankind faces worldwide problems of depleted fish stocks, rising waters that threaten populated shores, and more violent and frequent storms. All this will be the focus of the Oceans07 Conference and Exhibition, to be held 18 to 21 June in Aberdeen, Scotland. For more information, visit <http://bmsmail3.ieee.org:80/u/6147/04824637>
- Two Members Write the Book on Virtual Teams: As businesses rely more on teleconferencing, e-mail, and the Internet to help them get work done, there's a major problem: not everyone knows how to work in teams in this virtual workplace. That's why two IEEE members, Brenda Huettnner and M. Katherine ("Kit") Brown, along with Char James-Tanny, wrote "Managing Virtual Teams: Getting the Most From Wikis, Blogs, and Other Collaborative Tools." Read on at <http://bmsmail3.ieee.org:80/u/6149/04824637>
- The Institute Wants to Hear About Your Career Fair: If your IEEE student branch recently held a career fair, The Institute wants to know about it for possible use in an upcoming article. Send your news to the editors at institute@ieee.org
- The Book on Simple Wireless Devices: Even though wireless devices are seemingly ubiquitous, technologists are still opening up new worlds of wireless connectivity, and they need help in applying the latest standards to new products. This is the case for the IEEE 802.15.4 standard for Low Rate Wireless Personal Area Networks. Read more at <http://bmsmail3.ieee.org:80/u/6150/04824637>
- IEEE Signs Agreement to Preserve IEEE Xplore Content: Should the IEEE cease operations, members still would be able to access all the institute's scholarly documents, thanks to an agreement signed with Portico, an organization created to preserve digital collections of scholarly content. For more information, visit <http://bmsmail3.ieee.org:80/u/6152/04824637>
- IEEE Spectrum Radio Discusses Top 10 Tech Cars: From the thousands of makes and models of new cars introduced each year, IEEE Spectrum selects the "Top 10 Tech Cars" that use advanced technology

in the newest, most interesting ways. Tune in to Spectrum Radio's interview with automotive editor John Voelcker, who discusses this year's picks at <http://bmsmail3.ieee.org:80/u/6153/04824637>

- Do-it-Yourself Contest Winner to Present Project at Maker Faire: Join IEEE Spectrum and the IEEE Consumer Electronics Society at Maker Faire, a two-day event at the San Mateo Fairgrounds in California that celebrates arts, crafts, engineering, science projects, and the do-it-yourselfer. The winner of IEEE Spectrum Magazine's and Make magazine's DIY contest will have his or her project on display, and several editors will be on hand to videoblog the show. For more information and to purchase tickets, visit <http://bmsmail3.ieee.org:80/u/6154/04824637>

The IEEE Cincinnati Section Executive Committee

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